Remarks/Arguments

Claim Summary

By this Amendment, claims 1 and 6 have been revised.

Claims 1-8 remain pending in the application.

Oath/Declaration

Applicants strongly disagree that the originally filed Declaration is inoperative. However, in an effort to expedite prosecution, a Substitute Declaration is submitted herewith.

Specification and Drawings

By this Amendment, the specification and FIG. 5 have been revised to correct the informalities noted by the Examiner. No new matter has been added.

35 U.S.C. §112, second paragraph

By this Amendment, claims 1 and 6 have been revised to overcome the rejection under 35 U.S.C. §112, second paragraph.

35 U.S.C. §103

Claims 1-8 were rejected under 35 U.S.C. §103 as being unpatentable over Applicant's Admitted Prior Art (AAPA). Applicant respectfully traverses this rejection with respect to the now-pending claims.

Claims 1-5

With respect to Claim 1, the claimed invention now recites "(a) applying a working voltage and a black voltage resulting in a brightness curve varying with time during a vertical scanning period sequentially to a plurality of pixels on the liquid crystal display within the vertical scanning period; (b) integrating the brightness curve with time during a duration of the brightness curve to obtain a product, and deriving an effective brightness from a quotient by dividing the

product by the duration of the vertical scanning period; transferring the effective brightness into an effective light transmittance; (c) iterating the aforesaid steps (a)-(c) to obtain a light transmittance vs. voltage curve; and (d) defining a plurality of gray levels and gradation voltages corresponding to the plurality of gray levels according to the light transmittance vs. voltage curve".

AAPA fails to disclose these features.

That is, in the claimed invention, the gradation voltage corresponding to each gray level is defined by means of the ***dynamic relation*** curve, i.e. the light transmittance vs. voltage curve, and therefore it can satisfy the time factor of the brightness felt by the viewer's vision because of the existence of the delay phenomenon in the optical response.

Referring to paragraph [0007], FIG. 2 of the AAPA shows a ***steady*** transmittance vs. voltage curve rather than a ***dynamic*** transmittance vs. voltage curve. In general, a voltage, such as V_{L255}, is applied to the liquid crystal capacitor of a pixel, the liquid crystal molecules in the liquid crystal capacitor will be finally rotated to a predetermined steady angular posture due to the change of the electric field, and after the posture of crystal liquid molecules eventually is positioned in the predetermined steady angular posture and remain steady, the light transmittance measured for the pixel is designated as a ***steady*** light transmittance such as T_{L255}. The AAPA does not disclose or teach to ***integrate*** a brightness curve which ***varies with time during a vertical scanning period*** with time during a duration of the brightness curve ***to obtain a product*** and then to derive an effective brightness from a quotient by dividing the product by the duration of the vertical scanning period. T_{L255} of FIG. 2 is a ***steady*** light transmittance rather than an effective light transmittance derived by integrating a ***dynamic*** relation brightness curve with time during a duration of the brightness curve and dividing the integrating result by the duration of the vertical scanning period. Furthermore, V_{L255} of FIG. 2 is merely a voltage applied to the liquid crystal capacitor of a pixel, and is also unconcerned with the product of variable brightness and time.

Thus, in contrast to Applicant's disclosed and claimed invention, AAPA fails to teach or suggest all features of claim 1. Since the applied art does not disclose all the limitations of independent claim 1, withdrawal of the rejection and allowance of claims 1-5 are requested.

<u>Claims 6-8</u>

With respect to currently amended Claim 6, the claimed invention now specifies that "(a) applying a working voltage and a black voltage resulting in a brightness curve varying with time during a vertical scanning period sequentially to a plurality of pixels on the liquid crystal display within the vertical scanning period; (b) integrating the brightness curve with time during a duration of the brightness curve to obtain a product, and deriving an effective brightness from a quotient by dividing the product by the duration of the vertical scanning period; transferring the effective brightness into an effective light transmittance; (c) iterating the aforesaid steps (a)-(c) to obtain a light transmittance vs. voltage curve; and (d) defining a plurality of gray levels and gradation voltages corresponding to the plurality of gray levels according to the light transmittance vs. voltage curve; and (e) defining a plurality of gray levels and gradation voltages corresponding to the plurality of gray levels according to the light transmittance vs. voltage curve; wherein each of the gradation voltages is higher than each gradation voltage determined by a steady light transmittance vs. voltage curve for the same gray level so as to accelerate the response speed of the liquid crystal display".

AAPA fails to disclose these features.

That is, in the claimed invention, the gradation voltage corresponding to each gray level is defined by means of the **_dynamic relation_** curve, i.e. the light transmittance vs. voltage curve, and therefore it can satisfy the time factor of the brightness felt by the viewer's vision because of the existence of the delay phenomenon in the optical response.

Referring to paragraph [0007], FIG. 2 of AAPA shows a _**steady**_ _transmittance vs. voltage curve_ rather than a _**dynamic**_ _transmittance vs. voltage curve_ as the claimed invention shows. In general, a voltage, such as V_{L255}, is applied to the liquid crystal capacitor of a pixel, the liquid crystal molecules in the liquid crystal capacitor will be finally rotated to a predetermined steady angular posture due to the change of the electric field, and after the posture of crystal liquid molecules eventually is positioned in the predetermined steady angular posture and remain steady, the light transmittance measured for the pixel is designated as a _**steady**_ light transmittance such as T_{L255}. The AAPA does not disclose or teach to _**integrate**_ _a brightness curve which_ _**varies with time during a**_ _**vertical scanning period**_ _with time during a duration of the brightness curve_ _**to**_ _**obtain a produc**_t and then to _derive an effective brightness_ from a quotient by dividing the product by the duration of the vertical scanning period. T_{L255} of FIG. 2 is a _**steady**_ light transmittance rather than an effective light transmittance derived by integrating a _**dynamic**_ relation brightness curve with time _during a duration of_ _the brightness curve_ and dividing the integrating result by the duration of the vertical scanning period. Furthermore, V_{L255} of FIG. 2 is merely a voltage applied to the liquid crystal capacitor of a pixel, and is also unconcerned with the product of variable brightness and time.

Thus, in contrast to Applicant's disclosed and claimed invention, AAPA fails to teach or suggest all features of claim 6. Since the applied art does not disclose all the limitations of independent claim 6, withdrawal of the rejection and allowance of claims 6-8 are requested.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims 1-8 now pending in the application are requested.

Respectfully submitted,

VOLENTINE & WHITT, PLLC

/Adam C. Volentine/

Adam C. Volentine
Reg. No. 33289

November 19, 2007

Attachments: Substitute Declaration (3 pages)
Replacement Drawing Sheet (1 page – FIG. 5)

Customer No. 20987
One Freedom Square
Suite 1260
11951 Freedom Drive
Reston, VA 20190
Tel. (571) 283-0720